

**ARIZONA WESTERN COLLEGE
SYLLABUS**

FSC 110 HAZARDOUS MATERIALS I AWARENESS

Credit Hours: 1 Lecture 1

PREREQUISITES: None

COURSE DESCRIPTION

Course will provide the emergency responder with the ability to identify emergency scenes that may potentially involve hazardous materials, actions that are required to identify the presence of hazardous materials, and the steps necessary to take appropriate initial action. This course meets the objectives for First Responder-Awareness Level as specified by the National Fire Protection Association 472 Chapter 4.

1. COURSE GOALS

- 1.1 Allows the student to analyze the incident to determine both the hazardous materials present and the basic hazard and response information for each hazardous material.
- 1.2 Allows the student to implement actions consistent with the local emergency response plan, the organization's standard operating procedures, and the current edition of the North American Emergency Response Guidebook.

2. OUTCOMES

Upon satisfactory completion of this course, the student will be able to:

- 2.1 identify the definition of hazardous materials
- 2.2 identify the DOT hazard classes and divisions of hazardous materials and identify common examples of materials in each hazard class or division.
- 2.3 identify the primary hazards associated with each of the DOT hazard classes and divisions of hazardous materials by hazard class or division.
- 2.4 identify the difference between hazardous materials incidents and other emergencies.
- 2.5 identify typical occupancies and locations in the community where hazardous materials are manufactured, transported, stored, used, or disposed of.
- 2.6 identify typical container shapes that can indicate hazardous materials.
- 2.7 identify facility and transportation markings and colors that indicate hazardous materials, including the following:
 - 2.7.1 UN/NA identification numbers
 - 2.7.2 NFPA 704 markings
 - 2.7.3 Military hazardous materials markings
 - 2.7.4 Special hazard communication markings
 - 2.7.5 Pipeline markings
 - 2.7.6 Container markings
- 2.8 describe, given an NFPA 704 marking, the significance of the colors, numbers, and special symbols.
- 2.9 identify U.S. and Canadian placards and labels that indicate hazardous materials.
- 2.10 identify the basic information on material safety data sheets (MSDS) and shipping papers that indicates hazardous materials.
- 2.11 identify where to find material safety data sheets (MSDS).
- 2.12 identify entries on a material safety data sheet that indicate the presence of hazardous materials.
- 2.13 identify the entries on shipping papers that indicate the presence of hazardous materials.
- 2.14 match the name of the shipping papers found in transportation (air, highway, rail, and water) with the mode of transportation.
- 2.15 identify the person responsible for having the shipping papers in each mode of transportation.
- 2.16 identify where the shipping papers are found in each mode of transportation.
- 2.17 identify where the papers can be found in an emergency in each mode of transportation.
- 2.18 identify examples of clues (other than occupancy/location, container shape, markings/color, placards/labels, MSDS, and shipping papers) that use the senses of sight, sound, and odor to indicate hazardous materials.
- 2.19 describe the limitations of using the senses in determining the presence or absence of hazardous materials.

- 2.20 identify difficulties encountered in determining the specific names of hazardous materials in both facilities and transportation.
 - 2.21 identify sources for obtaining the names of, UN/NA identification numbers for, or types of placard associated with hazardous materials in transportation.
 - 2.22 identify sources for obtaining the names of hazardous materials in a facility.
 - 2.23 identify the three methods for determining the appropriate guide page for a hazardous material.
 - 2.24 identify the two general types of hazards found on each guide page.
 - 2.25 identify the location of both the local emergency response plan and the organization's standard operating procedures.
 - 2.26 identify the role of the first responder at the awareness level during a hazardous materials incident.
 - 2.27 identify the basic precautions to be taken to protect themselves and others in a hazardous materials incident.
 - 2.28 identify the precautions necessary when providing emergency medical care to victims of hazardous materials incidents.
 - 2.29 identify typical ignition sources found at the scenes of hazardous materials incidents.
 - 2.30 identify the ways hazardous materials are harmful to people, the environment, and property at hazardous materials incidents.
 - 2.31 identify the general routes of entry for human exposure to hazardous materials.
 - 2.32 identify, given the identity of various hazardous materials (name, UN/NA identification number, or type placard), the following response information:
 - 2.32.1 Emergency action (fire, spill, or leak and first aid)
 - 2.32.2 Personal protective equipment necessary
 - 2.32.3 Initial isolation and protective action distances
 - 2.33 identify, given the name of a hazardous material, the recommended personal protective equipment from the following list:
 - 2.33.1 Street clothing and work uniforms
 - 2.33.2 Structural fire-fighting protective clothing
 - 2.33.3 Positive pressure self-contained breathing apparatus
 - 2.33.4 Chemical-protective clothing and equipment
 - 2.34 identify the definitions for each of the following protective actions:
 - 2.34.1 Isolation of the hazard area and denial of entry
 - 2.34.2 Evacuation
 - 2.34.3 Sheltering in-place protection
 - 2.35 identify the shapes of recommended initial isolation and protective action zones.
 - 2.36 describe the difference between small and large spills as found in the table of Initial Isolation and protective Action Distances.
 - 2.37 identify the circumstances under which the following distances are used at a hazardous materials incident:
 - 2.37.1 Table of initial isolation and protective action distances
 - 2.37.2 Isolation distances in the numbered guides
 - 2.38 describe the difference between the isolation distances in the orange-bordered guide pages and the protective action distances in the green-bordered pages in the document.
 - 2.39 identify the techniques used to isolate the hazard area and deny entry to unauthorized persons at hazardous materials incidents.
 - 2.40 identify, given either a facility or transportation scenario involving hazardous materials, the appropriate initial notifications to be made and how to make them, consistent with the local emergency response plan or the organization's standard operating procedures.
3. METHODS OF INSTRUCTION
- 3.1 Lecture
 - 3.2 Instructional technology presentations
 - 3.3 Student participation
 - 3.4 Classroom exercises
 - 3.5 Field trips
 - 3.6 Practical skill application
4. LEARNING ACTIVITIES
- 4.1 Lectures, demonstrations and visual presentations
 - 4.2 Practical application

- 4.3 Field trips
- 4.4 Written exercises and periodic examinations
- 4.5 Class discussions
- 4.6 Demonstrations

5. EVALUATION

- 5.1 Exams
- 5.2 Assignments
- 5.3 Participation

6. STUDENT RESPONSIBILITIES

- 6.1 Under AWC Policy, students are expected to attend every session of class in which they are enrolled.
- 6.2 If a student is unable to attend the course or must drop the course for any reason, it will be the responsibility of the student to withdraw from the course. Students who are not attending as of the 45th day of the course may be withdrawn by the instructor. If the student does not withdraw from the course and fails to complete the requirements of the course, the student will receive a failing grade.
- 6.3 Americans with Disabilities Act Accommodations: Arizona Western College provides academic accommodations to students with disabilities through AccessABILITY Resource Services (ARS). ARS provides reasonable and appropriate accommodations to students who have documented disabilities. It is the responsibility of the student to make the ARS Coordinator aware of the need for accommodations in the classroom prior to the beginning of the semester. Students should follow up with their instructors once the semester begins. To make an appointment call the ARS front desk at (928) 344-7674 or ARS Coordinator at (928) 344-7629, in the College Community Center (3C) building, next to Advising.
- 6.4 Academic Integrity: Any student participating in acts of academic dishonesty—including, but not limited to, copying the work of other students, using unauthorized “crib notes”, plagiarism, stealing tests, or forging an instructor’s signature—will be subject to the procedures and consequences outlined in AWC’s Student Code of Conduct.
- 6.5 Texts and Notebooks: Students are required to obtain the class materials for the course.
- 6.6 Arizona Western College students are expected to attend every class session in which they are enrolled. To comply with Federal Financial Aid regulations (34 CFR 668.21), Arizona Western College (AWC) has established an Attendance Verification process for “No Show” reporting during the first 10 days of each semester.
Students who have enrolled but have never attended class may be issued a “No Show” (NS) grade by the professor or instructor and receive a final grade of “NS” on their official academic record. An NS grade may result in a student losing their federal financial aid.
For online classes, *student attendance in an online class is defined as the following* (FSA Handbook, 2012, 5-90):
 - Submitting an academic assignment
 - Taking an exam, an interactive tutorial or computer-assisted instruction
 - Attending a study group that is assigned by the school
 - Participating in an online discussion about academic matters
 - Initiating contact with a faculty member to ask a question about the academic subject studied in the course